SUBJECT INDEX.

Subject	*Page Numbers*
Preliminary Statement	1-10
Acts and Treaties determining boundary	6- 8
Discussion of Field Notes of Texas Surveys	10-24
Preliminary Discussion of Texas Surveys	10-13
Owen's Solution as suggested in original testimony	13-16
Sketch in connection with Owen's theory	15
Campbell's suggested solution	16-18
Suggested Solution	18-21
Discussion of Owen's depression along foot-hills	21-24
Position of River from 1903 to 1911	24-50
R. J. Owen's testimony as to position of River from 1901 to 1911	25-29
French's Map showing River in 1903	30-32
Calls in Crawford's deed showing River of 1905 and 1911	32-35
Map showing comparison between U. S. Reclamation Service River of 1903 and R. J. Owen's River of 1905	35-36
Discussion of evidence introduced by Texas on position of River in 1905	36-50
Testimony of Henry A. Kezer	37-42
Testimony of Thos. W. Zimpleman on position of River	42-43
Testimony of L. W. Smith on position of River in 1905	43-45
Testimony of C. F. Jones on position of River in 1905	45-46

SUBJECT INDEX—(Continued)

Subject	*Page Numbers*
Concluding remarks with reference to the position of the River in 1905	46-50
Change of River from 1850 to 1905 was by accretion	50-62
R. J. Owen's testimony on accretion	50-52
H. A. Kezer's testimony on accretion	52-53
Topography indicates accretion	53-62
Discussion of boundary from 32 parallel to S. W. corner of Canutillo Grant	62-63
Concluding Remarks	63-65

INDEX OF AUTHORITIES CITED.

Authorities	*Pages*
Louisiana vs. Mississippi, 50 Law Ed. 926	8
Washington vs. Oregon, 53 Law Ed. 118	8
Oklahoma vs. Texas, 43 Supreme Ct. Rep. 227	59, 61
Plummer vs. Marshall, 126 S. W. 1163	61

IN THE

Supreme Court of the United States

OCTOBER TERM, 1924
IN EQUITY
ORIGINAL NO. 3

THE STATE OF NEW MEXICO, Plaintiff,

vs.

THE STATE OF TEXAS, Defendant.

PRELIMINARY STATEMENT

I.

This suit was brought as an original case in this Court by the State of New Mexico against the State of Texas, to have this Honorable Court fix and determine the boundary line between the State of Texas and the State of New Mexico between the parallel of 32 degrees of north latitude and the parallel of 31 degrees 47 minutes of north latitude. The State of Texas filed its answer and its cross action, also asking that this Court determine said boundary line.

II.

In its petition the State of New Mexico alleged that the true boundary line between the two states within

the limits in question was the middle of the channel of the Rio Grande as it existed in the year 1850, and as such channel was delineated upon the map designated "Exhibit C" attached to plaintiff's petition. In its answer and cross action the State of Texas also alleged that the boundary was the middle of the channel of the Rio Grande as it existed in the year 1850 and filed a map which it claimed clearly showed the position occupied by the Rio Grande in 1850.

III.

In the original pleadings, therefore, both sides alleged that the only real question at issue was the determination of the position occupied by the Rio Grande in 1850. However, the State of New Mexico in its prayer for relief, prayed: "That your orator may have such further or other relief as the nature of the case may require and to the Court shall seem mete;" and the State of Texas in its prayer prayed as follows: "And that this defendant have such other and further relief as may be found necessary in order correctly to establish and locate said boundary line between plaintiff and defendant at the point in question, and as to the Court shall seem mete and proper." The petition of the State of New Mexico may be found on pages 2 to 5 of volume 1 of the transcript, and the answer and cross bill of the

State of Texas may be found on pages 15 to 20 of volume 1 of the transcript.

IV.

Under the pleadings this Court is called upon in this cause to establish the true boundary between the two states, and it is not bound by the allegations of either or both declaring that the true boundary is the position occupied by the river in 1850. As a matter of fact, there are no provisions in any of the treaties or conventions or Acts fixing the boundary at this place, which would take this case out of the general rule of law, which is to the effect that where a river such as the Rio Grande is the boundary between individuals or governments, such river continues to be the boundary even though its position changes, provided such change occurs gradually, by erosion and accretion, and not by avulsion, *and only where the change is shown to have been caused by avulsion does the river cease to be the boundary.* However, the case was tried throughout and all evidence introduced upon the theory that the only material question was as to the location of the river in 1850. The Brief of the State of New Mexico was devoted solely to the question of the location of the river in 1850. The changes in the position of the river were treated of only incidentally, as bearing upon the location of the river in 1850.

V.

With the record in this situation L. M. Crawford caused an investigation of the record to be made by his Attorneys, and ascertained that at the portion of the boundary affecting his land, if the river of 1850 occupied the position as claimed by Texas, then, nevertheless, it had changed its position by accretion so that in 1905 the river was in a position to the East of the position which it occupied in 1850, and it just happens that this land which had been added to New Mexico by accretion was the property of L. M. Crawford. However, the evidence in the record was not clear upon the situation involving this accretion and therefore a new survey was made by R. J. Owen, one of the engineers for Texas in this suit, and an affidavit of such witness was secured which, in conection with the map prepared by R. J. Owen, shows the true facts concerning this portion of the boundary line as the position of such boundary line has been changed by accretion. When this information was called to the attention of the attorneys for the State of New Mexico, they filed a motion in this cause before this Court to be allowed to prove the matters referred to in the map and in the affidavit of R. J. Owen above mentioned. After the affidavit of R. J. Owen had been secured, but before it was filed in this cause, the Brief of the State of Texas was filed in this cause, and in it the State of Texas, for the first time, stated and

recognized as applicable to this case the rule that the position of the boundary line would follow the changes in the river, where such changes were made by erosion and accretion. (We refer to the next to the last paragraph on page 11 of Part 1 of the Brief of the State of Texas, and also to the last clause of the last paragraph on page 12 of Part 1 of said Brief).

The boundary between Texas and New Mexico, within this vicinity, is determined by the Treaty of Guadalupe Hidalgo, February 2nd, 1848, Article V; by the Gadsden Treaty, ratified June 30, 1854, and by the Acts establishing the Territory of New Mexico and adjusting the boundary line between Texas and New Mexico, which act was approved September 30, 1850. By the terms of such Treaties and Acts the Rio Grande was, within the territory in question, made the boundary between New Mexico and Texas, and nothing was said in the Act which would prevent the application of the usual rules covering river boundaries. We find, however, the following provision in Art. I of the Constitution of the State of New Mexico:

> "Beginning at the point where the 37° parallel of North Latitude intersects the 103 Meridian West from Greenwich; Thence along said 103 Meridian to the 32° parallel of North Latitude; Thence along said 32° parallel to the Rio Grande, also known as the Rio Bravo del Norte as it existed on the 9th day of September, 1850;

> Thence, following the main channel of said river as it existed on the 9th day of September, 1850 to the parallel of 31° 47' North Latitude; Thence West . . . . . ".

However, the Enabling Act providing for organization of the State of New Mexico, by its terms contemplated the organization of the "Territory of New Mexico" into the "State of New Mexico," and it was the evident intention that the State should have the same boundaries as the Territory, and further, in a joint resolution reaffirming the boundary line between Texas and the Territory of New Mexico Congress provided:

> "That any provision of said proposed constitution that in any way tends to annul or change the boundary line between the State of Texas and the Territory or State of New Mexico, shall be of no force or effect, but shall be construed as not in any way to change, effect or alter the said boundary lines known as the Clark lines . . . . . ".

And, in the joint resolution to admit the Territory of New Mexico, in Section 2, it was provided:

> "The admission of New Mexico shall be subject to the terms and conditions of a joint resotion approved February 16, 1911, and entitled "Joint Resolution re-affirming the boundary line between Texas and the Territory of New Mexico."

It will thus be seen that it was the intention of Congress that the State of New Mexico should have the

same territory theretofore comprising the Territory of New Mexico, and of course, no provision in the Constitution of the State of New Mexico could have any effect to change the boundary of the State of Texas, nor could Congress change the boundaries of the Sate of Texas without the consent of such State.

Louisiana vs. Mississippi, 50 Law Edition, 926;
Washington vs. Oregon, 53 Law Edition, 118;

It will therefore, we anticipate, be conceded that the usual rules concerning river boundaries apply in the present case.

VI.

The State of New Mexico, in its Brief, has through its Counsel, with fairness and ability, presented its contention that the Rio Grande in 1850 held its main course along the East side of the Valley, and further that about 1860, or shortly thereafter, by avulsion, it changed its course to the West side of the Valley. Should this Honorable Court find in favor of these contentions of the State of New Mexico, then what we have to say in this Brief will have no value and will be of no interest to this Court.

The State of Texas, in its Brief, has, through its Counsel with equal fairness and ability, presented its contention that the Rio Grande in 1850 held its main course toward the West side of the Valley, but the evi-

dence is not conclusive as to any changes from such position, and therefore should the Court find in favor of the Texas position for the River in 1850, what we have to say would become material to a correct decision of this case.

We therefore respectfully suggest that this Honorable Court will not be interested in what follows in this Brief until after this Court has reached a conclusion as to the location of the River in 1850, and if this Court finds in favor of the New Mexico location, there will be no necessity for further examination of this Brief. Should this Court, however, find in favor of the Texas location of the River in 1850, then we believe that what we have to say may be of some assistance to this Honorable Court.

In view of what we have just said we shall hereafter in this Brief assume that the Rio Grande in 1850 occupied the position assigned to it by the State of Texas, and this is without any indication of such a belief upon our part, but is merely for the sake of brevity and clarity.

We start with the river occupying in 1850 the position shown upon the Owen map, Defendant's Exhibit No. 65. From that date until about 1903, we have no information as to the position of the river within this territory, except that we have the field notes and

plats of Texas Surveys 157, 259, 260, 261 and 262 covering the period from 1859 to 1871. We shall show that these field notes and plats furnish no accurate guide for the location of the river during the period referred to, and that, therefore, we have no accurate information as to the river's location from 1850 until about 1903.

We shall then show the position occupied by the river in 1903 and also show that it reached such position from its 1850 position, by erosion and accretion.

We shall then show that between 1905 and 1911, within this territory, the river by avulsion changed the location of its channel, leaving the old river bed of 1905 to 1911 as the boundary between the two states.

The field notes and plats of Texas Surveys Numbered 157, 259, 260, 261 and 262 furnish no guide by which to determine with any real accuracy, the position of the Rio Grande during the period beginning in 1859 and ending in 1871.

As shown by Plaintiff's Exhibit No. 69, following Page No. 3150 in the printed record, the location of Survey No. 154 by Mills in 1850 is rendered uncertain by the different ties referred to, but we shall assume that the location as made by the Texas Engineers is correct. Such location is shown upon Campbell's map. (Defendant's Exhibit No. 62) and Owen's Map (De-

fendant's exhibit No. 65). With this assumed position of survey No. 154, we find that if we take the courses and distances given by Anson Mills for surveys Nos. 154, 155, 158, 156 and 157, we shall have the Rio Grande lying in the valley and in substantially the position occupied by the Salazar-Diaz River,—the main difference being that, as shown by Plaintiff's Exhibit No. 76 and Defendant's exhibit No. 62, the Diaz River cut more deeply into the West line of Survey No. 157 and at a position further North than that shown on Mills' map of this survey. (See exhibits following page 3222 printed record red number 5518). This discrepancy can be best accounted for by the fact that, from a reading of the Anson Mills field notes, of surveys 154 to 158, (see exhibits following page 3222, red numbers 5518 to 5522), it is evident that he did not meander the river by course and distance, but merely approximated the course with his sketches appearing in connection with his field notes. Certainly, had he accurately meandered the River, he would have evidenced his labors by calls in his field notes for River courses. It is proper to assume that he did not run out the East and West boundary lines, nor the Northerly boundary lines of these surveys. The character of the country, the cheapness of the land, it being almost worthless, and the dates of the surveys, indicating great speed,—would be sufficient to justify this assumption. The lack of

accuracy in the plats is indicated in the plat accompanying the Mills' field notes of survey No. 157, (see red numbered page 5518 following page 3222 of printed record). Here the plat would indicate, when taken in connection with the field notes, that Mills crossed and re-crossed the River in passing down the West line of survey No. 157, although no mention is made of such crossing in the field notes, and, of course, we know that he did not cross or actually carry his lines into the River. It is clear that he did not actually survey out the West line of survey No. 157. Therefore, he did not know, and did not show on his map, that the River was cutting into Survey 157, as shown by the Diaz River on Defendant's Exhibit 62, and Plaintiff's Exhibit No. 76, and, as already shown, his river lines upon his little plats, were mere approximations. We think it clear that the river in 1859 and 1860 could very reasonably have been occupying substantially the position of the Diaz River of 1852 and the Mills' surveys Nos. 154 to 157 have been fairly accurately made. There is very little difficulty in reconciling these surveys with actual conditions and the known topography of the Valley. We come now to surveys Nos. 259 to 262, inclusive. With these surveys the Texas Engineers have had a great deal of difficulty. By taking the Northwest corner of No. 157, as called for in the field notes of survey No. 259, (see red numbered page 5509 among

pages following page 3222 of printed record), as the beginning point for No. 259, and then following the course and distance calls for No. 259, and then by the same process locating surveys Nos. 260, 261 and 262 by the course and distance calls of the Texas Surveyor in 1871, we would obtain a position for the river in 1871, as indicated on Plaintiff's Exhibit No. 76. In other words, this would place the river in 1871 out upon the foothills to the Southwest of the edge of the Valley, which, of course, would be an impossible position for a River. It therefore, became apparent that the position of the River in 1871 could not be determined by the plats and field notes of surveys No. 259 to 262. The two Texas Engineers adopted different theories for the solution of this difficulty.

R. J. OWEN'S SOLUTION

R. J. Owen, in arriving at the position of Survey No. 259, first used the old Lime Kiln as a tie, and taking the width of surveys Nos. 154, 155, 158, 156 and 157, arrived at a line, for the West line of No. 157, which was the proper distance and proper course from the Lime Kiln and the proper distance West from the East line of Survey No. 154. He also, by calculation, arrived at the position for the North line of Survey No. 157, and having located the West line of No. 157 and the North line of No. 157, he then took the plat and field

notes of Survey No. 259 (they are found on page marked in red "5509" on the exhibits following page 3222 of the printed record). Here he found that the plats showed the North line of No. 259 as a continuation of the North line of No. 157, and also that the first call in the field notes read:

> "Beginning at a large stone set for the North-West corner of Survey No. 157; Thence West 950.4 varas to a stake and mound, (see page red number 5518 following page 3222 printed record)."

showing that the beginning call in the notes was for the North line of 259 to be a continuation of the North line of 157. Then, after locating the north line of 259, he proceeded to run down the West line of 259, stopping at the edge of the Valley, although he had by no means reached the full length of said line. He then ran along the edge of the Valley until he reached the West line of No. 157, and then proceeded North along the West line of 157 to the place of beginning. He found that the West line of No. 259 in this position was only 1900 varas long, instead of 3610.9 varas long, as called for in the field notes. He also found that survey No. 259, instead of having a shape, as shown in the original plat, had a shape as shown on Owen's map, (Plaintiff's exhibit No.

SHAPE OF Nº 259
ACCORDING TO
ORIGINAL PLAT
AND FIELD NOTES

SHAPE OF Nº 259
ACCORDING TO OWEN'S
THEORY AND MAP_
DEFENDANT'S EX-
HIBIT Nº 65

65), the difference being shown in the sketch on opposite page, so, in answer to question No. 410, at the bottom of Page 2734, Owen said:—

> "So it is a difficult matter to state just where Mr. Comly, in 1871, when he surveyed those four numbers—Nos. 259, 260, 261 and 262, inclusive, found this old river."

Owen's testimony on these matters may be found on Pages 2733 to 2737 of the Record. *It is evident that the plat and field notes of Survey No.* 259 *do not place the river of* 1871 *at the position shown on Owen's map.* (*Defendent's Exhibit No.* 65), *but rather such a position for the River is based solely upon the old depression. or old River Bed of unknown origin and is in direct conflict with the river shown by the plat and field notes of the original surveyor.*

CAMPBELL'S SOLUTION

Campbell's difficulties and his attempted solution, may be found from his map (Defendant's Exhibit 62), and his testimony (pages 2534 to 2539 in the printed record). These deductions and theories are discussed by the Attorneys for Texas on pages 282 to 291 of Part I of the Defendant's Brief. Concisely stated, Campbell's procedure is given below:

He located the West line of No. 259, then proceeded South along that line to where Owen had told him there

was an old River bed. Then from this point of intersection, he proceeded,—not along Owen's old River Bed, but along the course shown for the River upon the original plat of No. 259, until he reached the West line of Survey No. 157, and he took this point for the Southeast corner of 259, and proceeded, with this point so established, to plat survey No. 259, giving the East and West lines their full original length. The difficulties in the way of such a solution, are:

> 1st.—the North line of No. 259 is to the North of, instead of being a continuation of the North line of 157, as shown in the plat;
>
> 2nd,—While the Southwest corner of Campbell's No. 259 lies in Owen's Old River bed, or depression, (which Owen now says came from flood waters and which by the way Campbell does not claim to have seen), the South line of the survey, as constructed by Campbell, takes a course where it is not shown that the river ever ran, nor does it follow any old depression.

Campbell sees Owen's discrepancy in showing the river along the South boundary of survey No. 259, as taking the course indicated on Defendant's Exhibit 65, instead of as called for in the original plat of No. 259, (the difference being shown on plat opposite page 14 of this brief), and he, Campbell, proceeds to retain the course of the river as shown on the original plat, by

arbitrarily placing his river, as shown on his map (Defendant's exhibit 62), where there is no showing of any old river bed, and where there is no supporting topography.

Just as Owen's position for the River of 1871 is not supported by, but is, in the face of the original map and plat of 259,—so Campbell's position for this river is in the face of the topography. The difference is that Owen maintains his old depression along the foot-hills in the face of the original plat and field notes, and Campbell maintains the plat and field notes as against Owen's depression, but disregards the plat and field notes in locating the north line of 259 considerably to the north of the North line of 157.

We believe that had Texas—and especially those Texas property owners most active in this case, and who have largely assisted in financing the Texas side of the controversy and whose Texas Counsel has largely controlled the conduct of the case,—been less anxious to secure for Texas all of the Valley land South of the Canutillo Grant, a more reasonable solution of these difficulties would probably have been arrived at.

SUGGESTED SOLUTION

We are assuming, as heretofore explained, that in

1852 the River was, in this territory, occupying the position as claimed by Texas under the alleged Diaz field notes. We say, therefore, that the River in 1852 was occupying the position as shown on Defendant's Exhibits Nos. 62 and 65. As heretofore suggested by Defendant's Attorneys, and Defendant's engineers, as well as by Plaintiffs' Engineers, and as indicated by the plats and field notes of the original surveys, it is most reasonable to assume that the original surveyor did not actually survey out all of the lines called for. It is reasonable, therefore, to assume that Mills, the Surveyor, in 1859 did not actually survey out the West line of Survey No. 157. It is therefore reasonable to say that in 1859 the river was cutting across the West line of No. 157 in substantially the position occupied by it seven years before, in 1852, and the surveyor, not having surveyed out the West line of 157, was ignorant of such fact, and therefore did not show this condition upon his map. Later, in 1871, when Comly, a different surveyor, prepared to run out on the ground survey No. 259, he, by calculating from the old Lime Kiln the distance West, of the West line of 157, from the longitudinal line of the old Lime Kiln, arrived at a line running North and South for the West line of survey No. 157. The surveyor then ran down the West line of 157 from

the North to the point where this line struck the river, which presumably was still crossing the West line at about the letter "a" between figures "8" and "9" on the Diaz River, as shown on Campbell's Map (Defendant's Exhibit 62). When the surveyor reached this point on the river and the river having by this time cut farther to the East so that the turn was not visible; or, in any event, the surveyor, not knowing the further Easterly and Southerly course of the river, assumed that he was at the Southwesterly corner of Survey No. 157, and therefore took this point as the beginning point for all of surveys Nos. 259 to 262 inclusive. It is therefore most probable that the Southeast corner of No. 259 was located where the West line of 157 in coming South, first crosses the river line of 1852, and we should take this as our starting point instead of Campbell's Southeast corner of 259.

If, with the beginning point which we have thus obtained, we use the original plats and field notes for surveys 259-262, inclusive, we have the position for these surveys substantially as shown on Plaintiff's Exhibit No. 284, (see map immediately preceding page 67 of Supp. Record). By adopting this solution, we have all of the surveys falling entirely within the valley and

based upon substantially the position of the river of 1852. When we consider that, in the original surveys of 259 and 262, C. H. Comly, the County Surveyor, gave no river calls and that the river calls were apparantly only estimated by Jos. Wilkin Tays from the sketches on the original field notes and when we see that for the river line of 259 the call is only for degrees and not minutes and one call has a length of 785 varas and the other a length of 270 varas and when we examine the calls on the river line for surveys 260, 261 and 262, we see that these river lines were largely estimated; they were certainly not surveyed with any degree of accuracy, so that the river in 1871 may very probably have followed rather closely the river of 1852, except for the fact that the bulge to the West at the S. W. corner of the Canutillo Grant had evidently continued farther to the west.

We believe we are justified in saying that the field notes for 259, to 262 cannot be used to establish a river along the foot-hills in 1871. The existence of any old river bed along the edge of the Valley in this vicinity finds support solely in the map of R. J. Owen, (Defendant's exhibit No. 65). No other witness has testified to any such old river, and even Campbell does not claim to have seen this depression. The map made by French

in 1903 shows no such depression, or old river bed, and the U. S. Reclamation Service map of various old river channels, (Plaintiff's Exhibit No. 281, following page 66 Sup. Record), shows no old river bed here. (See Plaintiff's Exhibits 21 and 28 in the Record). The existence of an old river in Owen's depression must be established upon Owen's testimony alone. Owen's original testimony may be found on pages 2628, 2652, 2654, 2671, 2680, 2733 and 2737. Owen did not claim to have ever seen or heard of a river being in this depression.

In his present affidavit, and in his present testimony, in the Supplementary record on pages 7 and 8, of such record, he testified concerning the depression along the foothills South of the Canutillo Grant and North of Piedras Paradas. He stated that as to the cause of the old depression, it was hard for him to say what was the cause of the old depression, and that the old depression was practically continuous, and that he should judge that the depression was caused from washes from the foot-hills, and by overflow from the river during high water and that it was caused from being used as a spill to carry off water from the river, and that it was caused from washes from the arroyos on the West side of the valley, which evidently brought in a great deal of water, and that he did not now know, and never did attempt to emphasize that it was a river bed of any particular time. Owen further testified that he made no survey of the

depression along the foot-hills, and that the lines along the foot-hills in his map (Defendant's exhibit No. 65), are free-hand drawings without field notes. He testified that he made field notes of a great number of old river channels and depressions in the Valley. Owen testified that he made an actual survey on the ground and obtained field notes for the river of 1905 from the 32nd parallel to the Southwest corner of the Canutillo Grant. He also testified that there was an actual survey of the River of 1905 from Piedras Paradas, South to Courchesne Bridge, and that he had the actual field notes for the 1905 river from Piedras Paradas South to Courchesne Bridge. He also testified that he did not have any survey covering the old depression along the foothills between Piedras Paradas and the South corner of the Canutillo Grant. (See page seven of the Supplementary record). It seems significant that no field notes were made of this so-called depression along the foothills, and that this is the only territory in which an actual survey was not made of the depression left by the 1905 river. We are positive that the only real indication of an old river bed in this vicinity was the river of 1905, as shown on Owen's present map (Plaintiffs' Exhibit No. 280).

We believe that we have said more than enough upon the subject of this so-called old river bed or depression. It may be safely dismissed from further

consideration as it can have no bearing upon the issues in this case.

Since the field notes and plats of surveys 259 to 262 can have no real value, there is no authentic record of the position of the Rio Grande in the territory in question; that is, between the south line of the Canutillo Grant on the North, and Piedras Paradas on the South; from the time of the alleged Diaz Salazar survey in 1852 up to about the year 1903. There is no evidence of any avulsive change in the river, or of any other substantial change in the course of the river in the territory in question, from 1850 until about 1905, and the evidence does show an avulsive change in the river in the territory in question about 1905 from the South line of the Canutillo Grant to about Station 47 on Owen's 1905 River (Plaintiff's Exhibit No. 280), said Station being near the dividing line between surveys 157 and 156, as shown on said map, and the evidence further shows that in 1911, or about that date, the river by an avulsive change abandoned its channel, from Station 47 to Station 32 on Owen's map, and took up a position to the West and in approximately the position shown on the map of R. J. Owen, (Plaintiff's Exhibit No. 280), for the present Rio Grande.

The position of the river from the south line of the Canutillo Grant to Station 47 on Owen's Map 280 near the dividing line be-

tween 157 and 156, during the period from about 1903 to 1905 was as indicated upon plaintiff's exhibit No. 280, and the position of the Rio Grande from 1903 until after 1909 around the Country Club property, is represented on Owen's map (Exhibit No. 280), by the heavy line running from Station No. 47 on the said line, around to the east of the Country Club building and thence continuing around said line in a southwesterly direction to where said heavy line reaches Station No. 32 at the intersection of said line with the present Rio Grande.

R. J. OWEN'S TESTIMONY

R. J. Owen testified that he was employed by L. M. Crawford for the purpose of showing the conflicting lines of the Crawford claim with the Texas claimants. He testified that Mr. Crawford wanted to know what lands he had subject to taxation in New Mexico, and for that reason he made certain plats for L. M. Crawford; that he first declined to make these plats for obvious reasons, but that afterwards he found out that there was no objection on the part of anybody to his making these maps for Mr. Crawford, and that he then proceeded to make the maps for Mr. Crawford, showing the condition of his lands with reference to the conflicts involved in the boundary dispute. (See page 34 in Supplementary record).

Concerning his knowledge of conditions within the territory in question, R. J. Owen testified that he had been surveying in the Rio Grande Valley since 1900.

(See page 9 in Supplementary record). He further explained more in detail the work that he had done in this vicinity. (See pages 21, 22 and 23 of the Supplementary record). He testified with reference to the two parallel lines designated in certain places as the "Rio Grande of 1905," which appear on Defendant's Exhibit No. 65 in the original record; that such lines, from the 32nd parallel down to the Southwest corner of the Canutillo Grant, represent the position of the Rio Grande in 1905, according to a survey which he actually made while he was employed in this boundary suit by the State of Texas. He further testified that said lines from Piedras Paradas South to Courchesne Bridge were made from field notes of an actual survey; that they were taken from a survey made in a sub-division of the land into townships by the State of New Mexico. He further testified that, in the intervening space between the Southwest corner of the Canutillo Grant and Piedras Paradas, these two parallel lines followed an old depression next to the New Mexico foot-hills, and that as to this particular part of the line,—that is from the Canutillo Grant to Piedras Paradas, there was no survey made on the ground of this old depression, but that the lines were simply thrown in around the New Mexico foot-hills to approximate the position of the old depression. (See page 7 in Supplementary record).

He further testified that he had subsequently made

a survey to show the position of the Rio Grande of 1905 between the Southwest corner of the Canutillo Grant and Piedras Paradas, and he identified his map showing the position of the Rio Grande in 1905 and same was marked "Plaintiffs' Exhibit No. 280" and said map was then introduced in evidence. He testified that on the map the line of the River of 1905 is designated by a line which is a little larger and heavier than the other lines on the map, and that it is marked "Rio Grande of 1905," and that the river in 1905 was actually running as shown on said map from the Southwest corner of the Canutillo Grant down and around to the East of the Country Club and back to the West where said line strikes the present Rio Grande. He further testified that he had been familiar with the River as running in substantially that location since about January, 1901, and that about the year 1905 it left its old channel which it then occupied, leaving this channel at a place to the North of Anthony, beyond the 32nd parallel, and abandoned its 1905 channel from such Northerly point, down to a point a little North and West of the present Country Club buildings, at which point it took up its same position as occupied by it prior to 1905, and followed such old position around to its intersection with the present river, and that it kept its old channel from about Station No. 47, as shown on Exhibit No. 280, said Station being near the dividing line

between Surveys 157 and 156, down to a point where said line strikes the present Rio Grande at Station 32 on Owen's map; that, of course, between 1901 and 1905 there were slight changes in the course of the river due to cutting of banks on one side of the river and depositing land upon the opposite side of the river, but that such changes were minor. He further testified that some time after 1909 the river by an avulsive change, abandoned the channel which it occupied around to the East and South of the present Country Club buildings, and took up the position which it now occupies and which is shown as the position occupied by the Rio Grande on the map of R. J. Owen, which is Plaintiffs' Exhibit No. 280. (This testimony appears on pages 8 to 12 of the Supplementary record). He further testified on Cross-Examination, that in 1905 the Rio Grande was flowing where it is shown upon Plaintiffs' Exhibit No. 280. (See page 30 of the Supplementary record). He further testified on Cross-Examination, that he located this river of 1905 from field notes of the L. M. Crawford deed, and further by following the old channel which he knew that the old river had occupied in 1905; that the field notes of the Crawford deed substantially followed the old channel; that he took the field notes in the Crawford deed and followed them around and checked them with what he knew to be the old channel of the river of 1905; that he had meandered the

river in 1901 and 1902, when the river was actually running along the course which he designates on his map as the River of 1905. (See pages 32 to 34 of Supplementary record). On Re-direct examination he again testifies positively as to the location of the River in 1903 and 1905; as to the avulsive change in 1905; as to the fact that the River continued to run around the Country Club from Station 47, to where it strikes the present position of the River, from 1905 until after 1909; and that he has no doubt about his location of the river during the period inquired about. (See pages 49 and 50 in the Supplementary Record).

It is anticipated that counsel for the State of Texas will attempt to lay some stress upon the affidavit of R. J. Owen made by him on the 15th day of November, 1916, which affidavit appears on pages 43 and 44 of the Supplementary Record, but we respectfully refer the Court to Mr. Owen's explanation of this affidavit, as such explanation is found on pages 46 to 49 of the Supplementary Record. Mr. Owen's explanation shows that, at the time that he made the affidavit in question, he had been misadvised as to the law governing the boundary line and was not taking into consideration questions of accretion or avulsion. It also seems significant that the State of Texas refrained from introducing in evidence the map referred to in the affidavit of R. J. Owen above mentioned.

French's Map showing Rio Grande of 1903 in the territory in question.

Upon the original hearing in which testimony was taken in this case, and while Charles L. Post, one of the New Mexico engineers was upon the witness stand, there was introduced in evidence a map which was a copy of a Reclamation Service map, said original map being prepared by J. A. French and his assistants who were working for the U. S. Reclamation Service, Post testified that his map, which is "Plaintiff's Exhibit No. 21," is a true copy of the French map insofar as it covers the territory in question, except that the Post map has certain additional cross lines of elevations. He testified that the contour lines are true copies of the French map. Post's testimony as to this map may be found on pages 1799 and 1800 of the printed record. When this map was offered in evidence the attorneys for the State of Texas objected to its introduction, stating that they would give grounds of their objection on the following Monday. Thereafter, on the following Monday they made certain objections to testimony which had been offered by New Mexico during the previous week, but no objections to the introduction of this particular map were stated, and we have been unable to find anywhere in the record any objections to the introduction of this map. (See pages 1800 and 1811). An examination of this map will show that the course of

the river in 1903, within the territory between the South line of the Canutillo Grant and Piedras Paradas is substantially as shown on Owen's map, which is Plaintiff's Exhibit No. 280. Owen, himself, testified (Pages 49 and 50 Supplementary Record) that he had examined Plaintiff's Exhibit No. 21 and that the course of the river in 1903, as shown on this map, is substantially the same as the 1905 river, as shown on Plaintiff's Exhibit No. 280. A copy of this map is found on page 125 of the Supplementary Record.

It will be noticed that the Attorneys for Texas, now, strenuously object to the witnesses being examined concerning Plaintiff's Exhibit No. 21, but we find that as already pointed out, the Attorneys for the State of Texas did not give any reasons for their objection to the introduction of this map when it was originally introduced. We also find that the Attorneys for the State of Texas have undoubtedly considered that this map was properly in evidence and properly before the Court, for we find on Page No. 318 of Part 1 of the Brief, filed by the Attorneys for the State of Texas, these Statements:

> "There is no controversy about the location of the channel of the Rio Grande River on the Western side of the valley, as shown by Defendant's witnesses, as will appear from an examination of Plaintiff's Exhibit No. 21. This

exhibit is a map made by the United States Geological Survey Reclamation Service of the Rio Grande in the area under dispute in 1903. The contours are placed at five foot intervals and show the topography of the valley and adjacent bordering bluffs, or valley walls. The channel of the river is located generally against the Western side of the valley."

Calls in Crawford's Deed substantiate Owen's Testimony.

We refer the Court to Plaintiff's Exhibit No. 283, as same is found beginning on page 55 of the Supplementary Record, the Court will notice that upon page 55 of the Supplementary Record, it is recited in this deed that the survey and field notes contained in the deed were prepared by J. W. Eubank, County Surveyor of El Paso County, Texas, and that such field notes were prepared in the month of January, 1911. On Page 2536 of the printed record, J. L. Campbell, one of the engineers for Texas, testified that J. W. Eubank had been County Surveyor of El Paso County for about twenty-five years preceding the taking of testimony in this case. He also testified that J. W. Eubank was familiar with the location of the Lime Kiln, and that it was J. W. Eubank who pointed the position of the Lime Kiln to Campbell for the purpose of assisting him in locating Survey 154. According to the recital in Crawford's deed, it was this same J. W. Eubank who prepared the field notes cover-

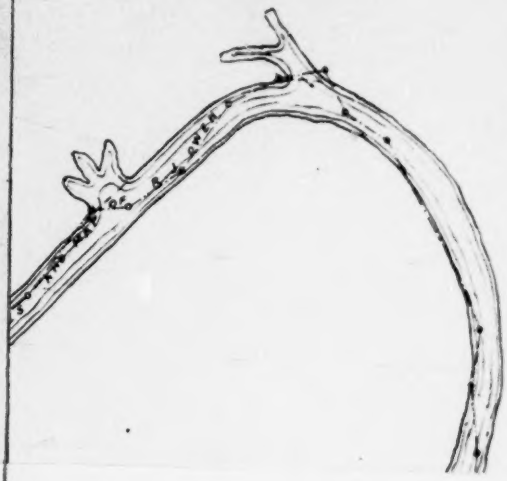
ing the Crawford land. Bearing this in mind, we call attention to certain calls in the field notes covering "Valley land Survey No. 1." We have especial reference to calls No. 47 to 75, as same appear on Page 57 of the Supplementary Record.

The Court will notice that No. 47 corresponds with the line running from 33 to 34 on the R. J. Owen map, Exhibit 280, and that Call No. 48, in such field notes, corresponds with the line from 34 to 35 on said Owen map, and that the calls from 47 to 75 inclusive, correspond to the heavy line of the 1905 river between the point where said heavy line strikes the hill land near the Southeast corner of Survey No. 261, and extends in a Northerly direction to where said heavy line, denoting the Rio Grande of 1905, reaches the Southwest corner of the Canutillo Grant, and the line which Owen designates as the Rio Grande of 1905 is designated in part by J. W. Eubank as a running slough, and is designated in part as an old river bed. In other words, where said old river bed contained water, it was designated as a running slough, and where it was dry, it was designated as an "old river bed." We also call attention to the calls in Valley Land Survey No. 2, as set forth in said deed, and particularly to those calls describing Valley Land Survey No. 2, beginning at Station 32 and extending to Station 64 as said calls appear on Page 60 of the Supplementary Record.

The Court will notice from reading these calls that they begin at Station 32; near where the dividing line between Z. T. White's land and White & McNary's lands in Survey 157 as claimed by Texas, intersects the present river line, said 32 can easily be found on the map near the extreme Southerly end of the heavy line on the Owen map which designates the Rio Grande of 1905; and that said calls continue from Station 32 in a North Easterly direction around, first, to the South of, then to the East of, and then to the North of the Country Club, and then continue West along Owen's heavy line representing the river of 1905, to the point where said heavy line strikes the high land at Station No. 63, being near the Southwest corner of Survey No. 260, as claimed by Texas. In other words, these Stations from 32 to 63 represent the line of the river of 1905, as shown on the map of R. J. Owen, as said river line turns East from the Hill lands and continues East in an almost due Easterly direction, South of and along the Country Club road, to a point Northeast of the Country Club building, and thence, continuing Southerly around the Country Club building and thence Westerly back to the present Rio Grande. You will notice that these calls follow the West bank of the then river (1911) from Station 41 to Station 47 and from Station 47 to Station 64 they follow what is called the center of an old river bed and is also called the West

bank of a slough. We show on the next page, a sketch which is styled "Map showing a comparison between U. S. Reclamation Service River of 1903 and R. J. Owen river of 1905." In other words, this sketch shows a comparison between the position of the river in 1903, according to the French survey made for the Reclamation Service, and the river as it was in 1905, according to the map of R. J. Owen,—being Plaintiff's Exhibit 280. This shows the River line from the Southwest corner of the Canutillo Grant to the point at which the river of 1905 comes back into the present Rio Grande. This sketch is obtained by reducing the Owen river of 1905 and the French river of 1903, to the same scale and placing them on the same map. The construction and the verification of this sketch is merely a mathematical calculation from facts already admitted in evidence and its correctness can be easily verified.

We find, therefore, that the position claimed by R. J. Owen for the river of 1905 is supported not only by the testimony of R. J. Owen, who has been fully familiar with this territory since 1901 and who has made actual surveys of this territory during that period, but is also supported by the survey of J. W. Eubank, as set forth in the Crawford deed and is also supported by the French survey in 1903 made for the U. S. Reclamation Service and is also supported by the Reclamation map showing various old river channels in the



FOLD OUT IS TOO LARGE TO BE FILMED

Mesilla Valley, said last mentioned map showing no indication of any other old river beds within this territory between the South line of the Canutillo Grant and Piedras Paradas . It seems significant that the true line of the river of 1905 was shown on the Texas map, (Defendant's Exhibit No. 65, page of the printed record), where such river line is to the West of the river of 1850, but it is not shown on the map correctly where such river line of 1905 is to the East of the river of 1850.

As further indicating that the State of Texas evidently considered that the position of the river of 1905 might be controlling in the vicinity of the Crawford lands, we find that Survey 262 was patented by Texas so as to extend up to the river of 1905, as such river flowed to the west of the position which Texas claims for the river of 1850. In other words, Texas, believing that the boundary would follow the river when it changed its position by accretion, patented Survey 262 up to the river of 1905, and, having the same belief, Texas declined or neglected to have the Engineer show the true position of the river in 1905 between the South line of the Canutillo Grant and Piedras Paradas, because said true line would have been to the East of the position claimed by Texas for the river of 1850.

Discussion of the evidence introduced by Texas to prove what it claims to have been the position

of the Rio Grande in 1905 at the time of the avulsive change.

Texas introduced four witnesses to disprove Owen's location of the Rio Grande in 1905 and their testimony will now be briefly discussed in the order in which the witnesses testified:

HENRY A. KEZER.

The testimony of this witness appears on pages 67 to 87 of the Sup. record. This witness testified that he has lived within a radius of about twelve miles from this locality for the greater part of the time since 1887, and that he became acquainted with the district around the Country Club in about the year 1900; that he became acquainted with this land from gathering mistletoe there from about 1900 to 1910, or 1911, and that he gathered Mistletoe practically every year from about November 1889 to December 1910; that he gathered Mistletoe from the Cottonwood Grove which was where the Country Club now is and that the Cottonwood trees were large and must have been from fifteen to twenty-five years old; that there were also big Tornillo trees in that vicinity; that there was a big forest where they gathered Mistletoe and that the river was over to the West and to the South of where they gathered Mistletoe, and that there were lots of old trees where the Country Club is

now, and being the old trees where the Mistletoe was gathered; and further that he helped clear the land in the vicinity of the Country Club in 1916 accompanied by Noel Longuemare. (This testimony may be found on pages 67 to 71 of the Sup. record).

On Cross-examination this witness testified that the wood which was cut was from the land East of the river as it then ran, and that in cutting wood, the men did not cross to the West side of the river; that there was plenty of Mistletoe on the East side of the river and that it was not necessary to cross the river to gather Mistletoe, and that the Mistletoe was hauled to the Santa Fe Railroad for shipment, and that in going from the Railroad to the Mistletoe it was not necessary to cross the river , and that he did not cross the river and that the men cutting wood did not cross the river, and that the river at that time, in that vicinity, had several big bends; that it would go over to the foothills and would then come back and bend out into the Valley, and that there were several big bends in the river in 1905 where the river would bend out into the Valley. (See pages 72 to 76 in Sup. record). He further testified that he had never seen the river run along the foothills; that it would run straight along the foothills for a little ways and then curve to the East and that it was always a crooked river; that it would strike the foothills for awhile and then bend out into the Valley, and that it

had been doing that ever since he had known it, and that in the particular territory in question it had been a curved and crooked river all the time,—cutting in and out each year,—some years cutting to one side and at other years cutting to the other side; that from 1902 to 1905 it maintained practically the same position, making small changes. (See pages 76 and 77 in Sup. record). The witness was then shown Plaintiff's Exhibit No. 21, being Post's copy of the Reclamation map prepared by French, showing the position of the Rio Grande in 1903. Speaking of the bend in the River of 1903, where, according to Owen, the river bends around to the East of the Country Club, the witness stated that he recollected the river making that bend but that that bend was South of where the Country Club is. He testified that the Cottonwood trees from which the Mistletoe was gathered was to the North and East of the big bend shown on the Reclamation Service map. The witness was then told that the map concerning which he was being examined was made by French in 1903 and that it showed a place which was marked "A" with the river running to the North and to the East and to the South of "A", and he was then asked to say where it was that the Mistletoe was collected, and he replied that it was right in North of where that river made that bend, and stated that it was right about where "B" is marked upon the map, and that the Country Club was

also at the point marked "B" on the map. He also said that the place where the Country Club is, is directly West of where White Spur is marked on the map. He further testified that the place where he collected the Mistletoe from old trees was just North of the river of 1903 and in the position marked "B" on the map. (We are now referring to Plaintiff's Exhibit No. 21, as marked by witness in this supplemental hearing and which is shown in the Supplementary record as Plaintiff's Exhibit No. 285, following page 124 of Sup. record). He also testified that he did not go South of the River of 1903. The witness was then asked this question:

"Now, Mr. Kezer, this river of 1903, how was it running?" And he answered: "That is just exactly according to my recollection (pointing to the map), only in there you have got the White Spur marked in here (indicating on the map)." The witness stated that his idea of where White Spur was, was that it was directly West of where it was marked on the map, and the position which he stated White Spur occupied was marked "C" on the present map. He testified that the old trees were cut in the vicinity marked "B" North of the river of 1903, and that no work was done South of the river of 1903 in that vicinity, and that the growth South of the river of 1903 and in

the bend, from about the letter "D" to the letter "A" consisted of Cottonwoods and Willows; that there was a sandbar in the bend of the river at about the position "A," extending to the river, and that the big Cottonwoods which were South of the 1903 river, were in the position marked "D" on the map, and that was the place where the Cottonwood trees were South of the 1903 river, and that he did not know of any l[illegible] Cottonwoods being East of "D", and that in the bend of the river there was a wide sandbar where the river had been cutting toward the East; that from "D" to "A" there were no large cottonwood trees, but that the land showed the condition having been made by a change in the position of the river, leaving a sandbar on the East and that this land which had been made by the river had grown up first with some Cottonwoods and then some willows. In other words, in the territory from "D" to "A" and on to the river on the East, the land first had Cottonwoods on the West and then came Willows and then came a sandbar, near the river (See pages 78 and 80 in Sup. record). This witness therefore testified to a condition showing clearly that the river had moved from about the position "D" to the position to the East of "A" by accretion; the vegetation gradually tapering down from Cottonwoods, which were evidently West of the River of 1852, to Willows, and then to a sandbar running down to the river channel of 1903. The witness

testified that when he first saw the Owen map he could not make heads or tails of it, but that Noel Longuemare went over the ground with him with the map and while the map was at first Greek to him, after he went over the ground in company with Noel Longuemare, he has been able to understand the map. (See page 85 of Sup. record); that he had not paid particular attention to the territory in question until recently when he went up with Noel Longuemare (See page 86 Sup. record). It is apparent that this witness has been misled by some means into thinking that the Country Club was situated in the territory which was formerly covered by a grove of Cottonwood trees and lying to the North of the river bend of 1903, whereas, as a matter of fact the Country Club is located on the land within the bend of the river of 1903. The mistake of the witness was evidently due to the very great change in the character of the land in this vicinity caused by the building of new roads, the cutting of trees, the cultivation of the land and the change in the river. When properly interpreted, the testimony of this witness very strongly corroborates the testimony of Mr. Owen.

THOMAS W. ZIMPLEMAN

The testimony of this witness may be found on pages 88 to 91 Sup. record. The testimony of the above witness is of no value in that he has been a very sick man recently and his evidence showed that he was not

in a condition to shed any light upon the situation. He had apparently recently been taken over the land around the Country Club and yet he persisted in testifying that the Rio Grande river at this time is running to the East of the Country Club.

L. W. SMITH

This witness testified that he was a marble and tile setter by trade; that he had been in this territory since 1898, and had been over the territory in question on fishing and hunting trips; that among those who accompanied him on these trips was Judge Harper and "Give-a-Dam" Jones. He testified that they would camp under big trees West of the Country Club and in the territory in question. (See pages 92 and 93 Sup. record). He further testified, however, that in the period prior to 1905 the river was making big bends out from the Western foot-hills and into the Valley, within the territory in question; that the river was making a great many bends out into the Valley. (See page 97 of Sup. record). He further testified that the country where the trees were and where he camped, and where he now thinks that the Country Club is located, was all to the East of the Rio Grande of 1903 to 1905, and he testified that he was not describing any land which in 1903 and 1905 was on the Western side of the Rio Grande, but that the land which he was speaking of lay to the East of the River of 1903 to 1905. He testified that it

had been about eight years, or more, since he had been up on that country and that the country had all changed since he had been up there; that he went up there recently with Mr. Longuemare, who went over the country with him. He testified very clearly and positively to the fact that he had never been around the Country Club and in that territory during the past seven or eight years, until recently he went up with Mr. Longuemare and that the whole country had changed its looks since he had been up there before and that trees and underbrush had been cleared away and that roads had been built through that territory and that the entire face of the country had changed since he formerly visited the country, and that the way he located himself when he was with Mr. Longuemare, was by looking at the foot-hills from out in the Valley He testified that the map made in 1903 by Mr. French was wrong in that it showed a wrong position for the river of 1903. He then proceeded to give his version of the position of the Rio Grande in 1903. He then wrote down on the map a line which he said showed the position of the river between the letters "D" and "A" on Plaintiff's Exhibit No. 285. (See map following Page 124 of Supp. Record). The Court will notice on this Exhibit a line beginning at the letter "G," passing North to the East of the letter "D" and continuing North to the West of the letter "E." This is the position which the witness

testified was occupied by the river in 1903. Of course, a reading of the witness's testimony will show that he was more or less indefinite in his location of the river of 1903. He testified that the river always ran in crooked lines and that only in one place did the river run up close to the hills. (See pages 98 to 104 of the Sup. record).

C. F. (GIVE-A-DAM) JONES

This witness testified that he was a carpenter by trade, and that he formerly went fishing in the territory in dispute, and that he frequently walked from El Paso to La Union up the river (a distance of some 25 or 30 miles) (See pages 104 and 105 Sup. record). He testified that the name by which he was generally known was "Give-a-Dam" Jones, and that he was proud of it. (See page 117 Sup. record). He testified that the territory now occupied by the Country Club and immediately around the Country Club was all East of the river in 1903. He gave his version of how the river ran and this testimony is set out on pages 117 to 120 Sup. record. He placed the river of 1903 along the edge of the foot-hills all the way from the Southwest corner of the Canutillo Grant to Piedras Paradas, saying that it came out in little waves toward the East from the foot-hills, but that it never came out very far from the foot-hills. (This testimony may be found on

pages 117 to 120 Sup. record). He testified that Mr. Longuemare had a map which he had prepared himself which was used to assist him in locating the different features of the land in this territory. He testified that he had known Mr. Z. T. White for a long time, since 1881. He testified that Mr. White was present in the room in which this testimony was being taken, and that Mr. White was in his right mind and capable of testifying and that he is familiar with conditions in that country, and that he would believe anything that Mr. White would say, and that Mr. White had always been a good friend of his; that he thought Mr. White was in his right mind because he did not play golf. (See page 112 Sup. record). A reading of the testimony given by this witness will clearly show that while picturesque it is of very little value.

CONCLUDING REMARKS WITH REFERENCE TO THE POSITION OF THE RIVER IN 1905.

We find that in seeking to destroy the position of the Rio Grande in 1905, as testified to by Owen, and as shown upon the maps of the Reclamation Service, and as shown by the field notes in deed of L. M. Crawford, the State of Texas has confined itself to the testimony of three witnesses who are testifying purely from memory and none of whom have ever made any surveys in this territory. One is a florist, the other a tile and marble setter, and the other a carpenter. We also

find that Mr. Z. T. White has owned land in this vicinity since prior to 1905. We find that Mr. R. J. Owen testified that he visited this territory in 1903 in company with Mr. Z. T. White and that he and Mr. White crossed the river as it was then, running out a point which is East of the present Country Club, and that he and Mr. White walked across the river on a fallen tree at that time, which was about 600 feet East of the present Country Club building. The witnesses who were placed on the stand by Texas all testified that Mr. Z. T. White was personally present in the room in which the testimony was being taken, and that he was in his right mind and capable of testifying, and that he had been familiar with this territory since long prior to 1905, and some of these witnesses testified that Mr. White was better able to give accurate information concerning the position of the River in 1903 and 1905 than the witnesses themselves, yet Mr. Z. T. White did not take the witness stand. Mr. Kezer also testified that Mr. Longuemare was doing work in the vicinity now occupied by the Country Club at the time that the land was being cleared, and all of the witnesses testified that Mr. Longuemare assisted them in going over this land preparatory to testifying in this case and yet Mr. Longuemare was not sworn as a witness to testify in this case. The witnesses also testified that Judge Harper, in prior times, went fishing with them in this terri-

tory, and yet Judge Harper was not sworn as a witness in this case. We call attention to the fact that no Civil Engineer and no person connected with the Reclamation Service, and no person who had made maps in this territory was placed upon the witness stand by the State of Texas. We find that all of the evidence shows that although Mr. Owen had been making maps and surveys in this territory for a number of years, and although he had made maps for Mr. Z. T. White in prior years, none of his maps were introduced in evidence by the State of Texas. It would seem that, if the river was not running in the position claimed by New Mexico, that the State of Texas would have been able to find some map or some survey showing a different position for such river and would not have been forced to rely upon such testimony as was produced by the State of Texas, and it is also significant that Owen has testified that the position of the 1905 river can be found even now on the ground, that the old depression formed by the river of 1905 can be at this time located upon the ground, almost the entire course of such river within the territory in question, and no witness has been produced to deny this testimony of Mr. Owen. The undisputed testimony shows that the river did leave its channel by avulsion in about 1905 within the territory in dispute, except the part that it occupied from 1905 to 1911 around the Country Club, and that it left this

old channel by avulsion. *Therefore, the undisputed testimony is that since the river left its channel of* 1905 *by avulsion, it must have left upon the ground the old channel which it occupied, and if this old channel did not follow the lines testified to by Owen, then certainly the State of Texas could have located this old channel on the ground and could have introduced testimony of engineers showing the location of such channel.* If the channel which the river left in 1905 is not correctly shown by Owen's testimony and Owen's survey, then certainly the State of Texas would have surveyed out the channel which the river left in 1905, and would have shown the position of such old channel by an actual survey without relying upon such testimony as has been offered in this case. It is also significant that the State of Texas had R. J. Owen make a survey of the channel occupied by the River in 1905 from the 32 parallel down to the Southwest corner of the Canutillo Grant; that it had R. J. Owen survey out numerous old river channels by metes and bounds and yet they did not actually survey out the river of 1905 and the depression left by it from the Southwest corner of the Canutillo Grant to Piedras Paradas, and this is the only part of the territory in which the river of 1905, according to Owen, ran to the East of the River of 1852. In other words, the river of 1905 was correctly shown where it ran to the West of the River of 1852, but it was

incorrectly shown where it ran to the East of the river of 1852.

We believe that it is established beyond any reasonable doubt that the river of 1902 to 1905 occupied the position as shown on Plaintiff's Exhibit 280, and that in 1905, by avulsion, it changed its course from the Southwest corner of the Canutillo Grant to a point North of the Country Club and that in 1911, by avulsion, it abandoned its course, then running around to the East and to the South of the Country Club, and took the position which it now occupies.

If, in 1850, the Rio Grande occupied substantially the position as claimed by Texas, based on the Diaz Field notes, then within the territory under consideration, it changed its position to that occupied by it in 1905 by erosion and accretion, and not by avulsion.

R. J. OWEN'S TESTIMONY

R. J. Owen testified that, during the period in which he had been familiar with this section of the valley, he has found no evidences on the ground of an old river channel where the river of 1852 was located by the Texas Engineers according to the Diaz field notes; that there has been no indication on the ground of any abandoned channel for the river of 1850, except that about Station 26 on the Salazar field notes (which Station may be

found in the drainage canal as it crosses the Southwest corner of Survey 260 in Plaintiff's Exhibit 280) there is a depression which might or might not be that of an old river bed. (Pages 12 and 13 Sup. record). You see, therefore, from Owen's testimony that where the river of 1905 has passed to the East of the river of 1850 there is no indication on the ground, and has been no indication on the ground since 1900 of any abandoned channel of the river. He further testified that he had been surveying in this neighborhood since 1900 and has become familiar with the causes of changes in the course of the river and that when rivers make avulsive changes, they usually leave the old river bed as an abandoned channel. He further stated, when asked whether or not in his opinion the river when it changed from its 1852 location to its 1900 location, it made this change gradually by erosion or accretion or by avulsion; that starting at the approximate location of the river of 1852 in that vicinity and in passing over the country to the East in the direction of the Country Club property, and that by viewing that with the eye there is nothing intervening in the way of old channels which might have been formed and left there by an avulsive change. He further stated that he had never seen any old cottonwood trees between the 1852 location of the river and the 1905 location of the river; that he did not remember seeing even one old tree in

that district, and that from his examination of the territory in times past, it looked as though the river had eaten its way over from the 1852 location to the 1905 location by erosion and accretion. (Pages 15, 16, and 17 Sup. Record).

H. A. KEZER.

As we have heretofore in another portion of this Brief pointed out, H. A. Kezer, one of the witnesses for the State of Texas, testified that the land upon which the Country Club is situated, was covered with a heavy growth of Cottonwood trees which were from 15 to 25 years of age, nevertheless on cross-examination, he testified that this Cottonwood grove, where he now seems to think that the Country Club is situated, was to the North of the River as it ran in 1903, and when he was examined with reference to Plaintiff's Exhibit No. 285, he stated with reference to the land enclosed in the bend of the river, that about the location designated by the letter "D" there were some Cottonwood trees, and that to the East of these cottonwood trees, within the bend of the river there were some Willows, and that continuing to the East in about the position of "A" there was a sand-bar. In other words, it would seem that according to his testimony that the Cottonwood trees spoken of by him were to the West of the position occupied by the Rio Grande in 1852, and

that next came small Cottonwoods, or Willows, and then then further to East and next to the river, came a sand-bar showing the condition that commonly exists where the river has moved by accretion. In other words, we have the old trees at the position from which the river moved, and then we have the newer growth a little further over from the old position, and then we have the sand-bar immediately next to the new position of the river. (Pages 79 and 80 Sup. Record).

TOPOGRAPHY.

We first refer the Court to the old maps of the Canutillo Grant which may be found following page 3148 of the original record. These maps show that the river had been moving by accretion from the Southwest corner of the Canutillo Grant, in a Westerly direction, towards the Foot-hills. In other words, the shading on the maps indicate that a sandbar had been forming to the West of the Southwest corner of the Canutillo Grant. We next find that, in the territory immediately South of the Southwest part of the Canutillo Grant and apparantely between the South boundary of the Canutillo Grant and the present drainage ditch, the position of the river in 1852 was very close to the position which the river occupied in 1905, so that apparently the river had remained in approximately the same position in this particular territory, since 1852. We

next pass to the territory occupied by the Country Club and to the territory extending West from the Country Club to the Foot-hill line as shown on Exhibit No. 280. (See map following page 66 of Sup. Record). We find that in 1852 the Rio Grande was in this section making a bulge out from the foot-hills, in the position shown by the line of the Rio Grande of 1852 which follows the drainage ditch to about the Southeast corner of Survey No. 260, and then turns East across Survey No. 259 and into Survey No. 157, and then turns South and then Southwest, striking the present Rio Grande at Station No. 17 on the river of 1852, which Station is near the Southeast corner of Survey No. 259. It is to be noticed that from where the line of the river of 1852 leaves the drainage ditch and goes East across Survey No. 259, the line of said river of 1852 is approximately in the same position as the line of the river of 1905, and the bulge of the river of 1852, towards the East, occupies the same general direction as the bulge in the river of 1905, the difference being that this bulge has merely continued over farther to the East. In other words, in 1852 the river was running in an Easterly course to about Station 22 on the river of 1852, and was then turning South to Station No. 21, and then turning Southwest from 21 to 17. The river was therefore maintaining a cutting edge against its

East bank along that part of the river of 1852 between Stations 22 and 21, and as it continued to cut against this East bank, the river continued to go further out into the Valley, cutting its way finally out to the position occupied by it in 1905. *A river changing by avulsion from the position occupied by it in* 1852 *in this particular district, would never have reached such a position as occupied in* 1905, *as it is universally stated by competent authorities that when a river makes an avulsive change, it almost invariably shortens its course. That this is true is vouched for by Texas in its Brief heretofore filed in this case, from which we shall freely quote hereafter.*

With reference to the action of the river in such territory as that under investigation, we wish to quote certain parts of the Brief heretofore filed by Texas in this case. We have especial reference to pages 324 to 332 in Part I of the Texas Brief. Attorneys for Texas have said:

> "* * * * * we call attention to the following fundamental laws of river meandering: As a result of the actual conditions in flowing water, the current, instead of flowing with greatest velocity along the center of the stream, it is ever here and there deflected from the center toward the side, and lateral erosion, therefore, results. If a stream with a straight course were established on a flood plain, deflection would at once commence. This deflec-

tion would consist of cutting at a certain point where the current was turned against the bank; but the cutting would not continue far if there was not corresponding deposit on the opposite side, for, without that, the breadth of the channel would be increased and the current, therefore diminished. As a matter of fact, filling on one bank goes hand in hand with cutting on the other. This gives rise to a steep bank on the side of cutting and a gently sloping sand or silt bank on the other, on which vegetation may not be able to enroach as fast as deposit builds it out into the river. From the point of cutting the current is deflected, not abruptly, but along the curve, so that the cut face is a curve concave toward the river, while the built side is convex. Deflection from the curved face of cutting swings the current over against the opposite bank lower down, and there another curve of cutting, with opposed curve of filling, is begun. This process continues until the river swings over its flood plain in a great series of curves, or meanders. While erosion is in progress on the outside of the curve, because the current is swiftest there, deposit is taking place on the inner side, because there the current is slowest; thus, while the outer curve extends by erosion, the inner curve extends, pari passu, by deposit. During the development of the meanders it is to be noted that lateral planation on one side of a stream is accompanied by deposition on the other. This is cut-and-fill. The sediment eroded from the curve which is concave toward the stream is shifted downstream, while that deposited in the curve, which is convex toward the stream, is brought down from above. As the outside of the curve is cut away, the inside is filled with sediment to flood level, and

a strip of land is thus formed. In this way, as well as by deposition during overflow, a broad, flat valley is developed, which, as has been said, is called a flood plain because covered by water during floods. Sources of information: Tarr's College Physiography, pp. 146 to 149; Le Conte's Geology, p. 24; Chamberlin & Salisbury's Geology, pp. 190 to 194; Cleland's Geology, p. 121. The report of W. W. Follett, consulting engineer of the United States section of the International Boundary Commission on the Rio Grande, states that erosion usually occurs on the concave side of the bends, but that where such erosion does occur a bar creeps out from the inner or convex side, due to the slacking power of the current; that the swiftest current is closest to the caving bank, while there may be still water on the opposite shore where the silt is dropped and the bar built up. He states that the material in the bar does not come from the opposite bank, but from some caving bend further upstream, while the earth cut from in front of it goes on below to form some other bar in its turn. He states that, if the bend be a gradual one, that the current will not crowd the outer side as hard as in sharper bends, but will be against it, so that the slow current and a bar may be expected on the convex or inner side of any curve, whatever may be its rate of curvature. In 1914, the United States, through its Geological Survey, published what is known as Professional Paper 86. The subject of this paper is "The Transportation of Debris by Running Water" by Karl Gilbert. It is a standard discussion of the subject, and states in concrete form many of the commonly known laws of moving water. We direct the attention of the Court to such portions of this discussion as may seem ap-

propriate, as a proper source of information on this subject. That report among other things, states:

> 'In a straight channel the current is swifter near the middle than near the sides and is swifter above mid-depth than below. On arriving at a bend the whole stream resists change, of course. * * * *Another result is that the swiftest current is no longer medial, but is near the outer or concave bank. * * * The currents which, * * * approach the inner bank, are slackening currents, and they deposit what they can no longer carry. * * * The twisting current attacks the outer bank, being swifter at contact with that bank than in any other part of the wetted perimeter. If the bank consists of alluvium there is erosion. * * * Erosion from concave banks offsets the deposition under convex banks.' (Professional Paper 86, United States eological Survey, 'Transportation of Debris by Running Water,' p. 220.)"

Again:

"To establish a straight, graceful, direct channel of the Rio Grande in the area under dispute adjacent to the eastern foothills, is to say that the Rio Grande River has overturned, upset, and disobeyed every known rule of valley building and law of running waters. It is unnatural, and in the absence of artificial disturbance, impossible."

And, again, on page 331, the Attorneys for Texas say in their Brief:

> "The result of such action is known the world over as oxbow cut-offs and constitute the usual avulsive changes of a river, however temporary they may be. *Avulsion shortens and never lengthens the channel of a river.* This is a cardinal and elementary rule of physiography and hydraulics."

R. J. Owen, in his testimony, stated that changes of the river in the Rio Grande Valley by accretion are frequent. (See page 51 of Sup. record, Ques. No. 356).

This Honorable Court, in the recent case of the State of Oklahoma vs. the State of Texas, decided January 25th, 1923, as same appears in 43 Sup. C. Rep., page 221, said, on page 227:

> "The enlargement is the result of intervening accretions. The habit of the river is to erode the outer bank of a bend and to accrete to the opposite bank. Three surveys executed by Texas in 1856, and covering less than the whole area, disclose the presence at that time of over 1,700 acres. On the outer part are physical evidences of the formation being comparatively recent. On the inner part are like evidences of the formation being old, among them being the presence of living trees more than a century old."

In other words, the condition referred to in the above case is substantially the same which is shown to have existed with reference to the territory to the West of the Country Club, and within the bend of the river of 1905. We have a cutting against a curving

bank, a deposit on the inner bank, and we have, according to the testimony of Mr. Kezer, an old growth of trees to the West, then a newer growth to the East of this old growth, and then we have the sandbar further to the East and extending to the river bank.

We have been principally concerned in this case with reference to the territory immediately South of the Southwest corner of the Canutillo Grant and with the territory lying in the bend of the river West of the location of the present Country Club building very little attention has been given to the bend in the river just North of Piedras Parades and marked on the Owen map as "L. M. Crawford Survey No. 3." When we turn to this part of the map we find that in 1852 the Rio Grande was bending out from the foothills and into the Valley on a course as shown between Stations 16 and 7 on the Rio Grande of 1852. We find that at the time of Crawford's deed, in 1911, this bend in the river had become more pronounced toward the East and narrower on the North and South direction, and we find that in 1923 the river was maintaining practically the position which it occupied at the time of the Crawford survey, except that the bend had apparently moved slightly to the South. The general direction of the bend of the river in 1852, taken in connection with the general direction of the bend of the river in 1911

and 1923 would, in the absence of other testimony, indicate that the changes in the river had been caused by erosion and accretion.

We believe that we are justified in saying that all of the evidence in this case preponderates in favor of the showing that the position of the river in 1905, within the territory in question, had been reached by accretion instead of by avulsion, but, even if the matter were doubtful, the burden of proof being upon the party who asserts an avulsion, the decision should be reached by this Court in favor of the contentions urged by the State of New Mexico. We respectfully refer this Court to its opinion in the State of Oklahoma vs. the State of Texas, 43 Sup. C. Rep. 227, in which this Honorable Court used the following language:

> **"Common experience suggests that there probably have been changes in this stretch of the Red River since 1821, but they cannot be merely conjectured. The party asserting material changes should carry the burden of proving them, whether they be recent or old."**

And we also call this Court's attention to the following language of the Court of Civil Appeals of Texas in the case of Plummer vs. Marshall, 126 S. W. 1163, in which a Writ of Error was denied by the Supreme Court of Texas:

> **"The party who asserts that the channel of a water course recognized as the boundary line**

is not in fact, at the point in controversy, the true boundary, resting his contention upon a sudden shifting of the course of the channel, assumes the burden of proving that fact."

Brief Discussion of the boundary between the thirty-second parallel and the southwest corner of the Canutillo Grant, as such boundary may have been affected by accretions or avulsions.

Should this Honorable Court have found that the River in 1850 occupied substantially the position as shown in the so-called "Salazar Diaz" field notes, as said field notes are platted upon the map of R. J. Owen (Defendant's Exhibit No. 65), then with reference to the boundary between the 32nd parallel of latitude and the Southwest corner of the Canutillo Grant, we believe that an examination of the testimony of R. J. Owen, given at the original hearing, will show that there are evidences upon the ground of abandoned channels of the river from a point on the river line of 1852 South of what is shown as "Loma Arena," which is Northwest of the Canutillo Grant, extending North to about the 32nd parallel which would indicate that the river had left its channel within such territory, by avulsion. The Court will also find that the testimony of the witnesses for New Mexico is undisputed that about 1860 there was a sudden change in the course of the Rio Grande, and that about that time the river suddenly changed its

course from a position near the East side of the Valley to a position toward the West side of the Valley. Therefore, we respectfully suggest to the Court that the Rio Grande reached its channel of 1905 by avulsion within the territory beginning at the 32nd parallel of North latitude and extending South to what is known as "La Cobrena." (La Cobrena is shown on Defendant's Exhibit No. 65 just West of "El Canutillo Grant No. 173"). We therefore suggest that, in the event the Court should sustain the Diaz River, then the correct boundary would follow the Diaz field notes, or in any event, the Texas Survey field notes from the 32nd parallel to "La Cobrena," and should then follow the 1905 river from La Cobrena South to Piedras Paradas. It should then either follow the 1852 river line, or the 1905 river line, or the present river line from Piedras Paradas to the International Boundary. We are not sure which of these river lines should be followed South of Piedras Paradas, as we have not investigated the record sufficiently to be of any assistance to the Court with reference to the position of the river from Piedras Paradas South to the Southern extremity of the territory in dispute.

CONCLUDING REMARKS

We believe that the following propositions have been clearly established:

1: Assuming that the Rio Grande of 1850 occupied substantially the position indicated on Owen's map (Plaintiff's Exhibit No. 280) for the river of 1852, then by erosion and accretion, the river changed its course to that occupied by it in 1905 between the Southwest corner of the Canutillo Grant and Piedras Paradas.

2: The Rio Grande in 1905, within the territory in question, occupied substantially the position as indicated on the Owen map (Plaintiff's Exhibit No. 280).

3: The Rio Grande, in 1905, by avulsion, abandoned its course from about the 32nd parallel to the point Northwest of the present Country Club building at Station 47 on the Rio Grande of 1905, which Station is just East of the dividing line between Surveys 157 and 156.

4: The river, by avulsion in 1911, abandoned its course from the above mentioned Station No. 47 to the point where the Owen River of 1905 strikes the present Rio Grande at Station 32 on the 1905 river.

5: The Rio Grande of 1850 from the Southwest corner of Survey 157 to Piedras Paradas, occupied substantially the position shown for the Rio Grande of 1852 on the map of R. J. Owen. (Plaintiff's Exhibit No. 280), and it has maintained substantially that course ever since and there are no evidences of any avulsive change from the Southeast corner of No. 157 to Piedras

Paradas, so that the present Rio Grande within that territory remains the boundary between the State of New Mexico and the State of Texas.

While we are firm in our belief that all of the foregoing propositions have been clearly established,—we nevertheless, respectfully suggest that, should this Honorable Court be in any doubt concerning the exact location of the River of 1905, within the territory in question, then a Commission, may in accordance with the usual practice of this Court, be appointed to definitely mark the location of the River of 1905 within this territory.

Respectfully submitted,

THORNTON HARDIE,

Attorney for L. M. Crawford,

Amicus Curiae.